

WHAT IS CLAIMED IS:

1. An apparatus for extruding unvulcanized rubber which comprises a first extruder main body for extruding a first unvulcanized rubber, a second extruder main body for extruding a second unvulcanized rubber, an extrusion head which connects a leading end of the first extruder main body and the second extruder main body, and a passage-forming die for guiding, at a leading end of the extrusion head, the first unvulcanized rubber and the second unvulcanized rubber toward a die plate having an opening, wherein an extruded rubber member is formed by extrusion, the extruded rubber member having a cross sectional configuration in which, when seen from a cross section perpendicular to a direction in which the extruded rubber member is extruded, a portion of the second unvulcanized rubber intrudes into the first unvulcanized rubber and a portion of the first unvulcanized rubber is disposed at both sides of the intruded second unvulcanized rubber in a direction intersecting a direction in which the second unvulcanized rubber intrudes, said apparatus comprising:

a first passage through which the first unvulcanized rubber passes;

a second passage provided adjacent to or connected to the first passage and making the second unvulcanized rubber to pass therethrough; and

a flow dividing mechanism provided at one of a portion at which the first passage and the second passage are disposed

adjacently and a portion at which these passages are connected, and separating a portion of the first unvulcanized rubber passing through the first passage to allow the first unvulcanized rubber to be disposed at both sides of the intruded second unvulcanized rubber in a direction intersecting a direction in which the second unvulcanized rubber intrudes.

2. The apparatus of claim 1, wherein the flow dividing mechanism includes a first weir disposed at an upstream side of the die plate and apart from the die plate, and protruding from the second passage side toward the first passage in a direction perpendicular to a direction in which the unvulcanized rubbers pass.

3. The apparatus of claim 2, wherein the first weir is substantially parallel to the die plate and includes a substantially trapezoidal shape.

4. The apparatus of claim 2, wherein the flow dividing mechanism further comprises a partition wall extending substantially perpendicular from the first weir in a direction away from the die plate.

5. The apparatus of claim 4, wherein one end portion of the first weir is connected to the passage-forming die and the other end portion thereof is disposed at a portion substantially corresponding to a widthwise intermediate portion of the opening of the die plate, the

widthwise direction corresponding to a direction in which the first weir protrudes.

6. The apparatus of claim 2, wherein the flow dividing mechanism further comprises a second weir which extends from the first weir toward the die plate.

7. The apparatus of claim 6, wherein the second weir reaches the opening of the die plate.

8. The apparatus of claim 6, further comprising:  
a third extruder main body, which extrudes a third type of unvulcanized rubber; and  
a third passage, through which the third unvulcanized rubber passes.

9. The apparatus of claim 8, wherein the third passage is disposed adjacent to the first passage and at a side of the first passage opposite to a side at which the second passage is disposed.

10. A method for extruding unvulcanized rubber, in which an extruded rubber member is formed by extrusion by an extruding apparatus, the extruded rubber member having a cross sectional configuration in which a portion of the second unvulcanized rubber intrudes into the first unvulcanized rubber and a portion of the first

unvulcanized rubber is disposed at both sides of the intruded second unvulcanized rubber in a direction intersecting a direction in which the second unvulcanized rubber intrudes, said method comprising the steps of:

dividing a portion of the flowing first unvulcanized rubber into two flows at an upstream side of a die plate including an opening in the extruding apparatus;

allowing a portion of the second unvulcanized rubber to intrude in between the two flows into which the portion of the first unvulcanized rubber is divided; and

extruding, from the opening of the die plate, an extruded rubber member in which the first unvulcanized rubber and the second unvulcanized rubber are integrated with each other.

11. The method of claim 10, wherein the extruding apparatus includes a flow dividing mechanism including a first weir which is provided at the upstream side of the die plate and apart from the die plate and which protrudes in a direction perpendicular to a direction in which the first unvulcanized rubber passes, the first unvulcanized rubber and the second unvulcanized rubber are caused to intersect with each other by allowing the second unvulcanized rubber to pass over the first weir.

12. The method of claim 11, wherein the flow dividing mechanism includes a second weir extending from the first weir to the die plate,

and the position of one of leading ends of two divided flows of the first unvulcanized rubber disposed at both sides of the second unvulcanized rubber is changed by the position of the second weir.

13. The method of claim 11, wherein a border line between the first unvulcanized rubber and the second unvulcanized rubber is changed by extrusion pressures of the first unvulcanized rubber and second unvulcanized rubber.

14. The method of claim 11, further comprising a step of:  
causing a portion of a third unvulcanized rubber to intrude into the first unvulcanized rubber, and an extruded rubber member having a region in which the first unvulcanized rubber and the third unvulcanized rubber are integrated with each other is extruded from the opening of the die plate.

15. The method of claim 14, wherein the third unvulcanized rubber intrudes into the first unvulcanized rubber at a side opposite to that at which the second unvulcanized rubber is disposed.